AMENDMENTS TO THE CLAIMS

1. (Currently Amended) ~~Method~~ A method for producing recombinant RNase A in *E. coli* ~~characterized in that~~comprising expressing a DNA sequence ~~is used,~~ which codes for a RNase A of bovine origin and which is adapted to the codon usage in *E. coli*.

2. (Currently Amended) ~~Method according to~~The method of claim 1, wherein the DNA sequence is adapted to the codon usage of *E. coli* K12.

3. (Currently Amended) ~~Method according to~~The method of claim 1 ~~or 2~~, wherein the DNA sequence is adapted to the most frequently used codon in *E. coli*.

4. (Currently Amended) ~~Method according to any of claims 1 to 3~~The method of claim 1, wherein the DNA sequence corresponds to the DNA sequence given in SEQ ID No. 1, or to a sequence~~,~~ which is ~~identical to~~ at least 90% identical to~~of~~ the DNA sequence given in SEQ ID No. 1.

5. (Currently Amended) ~~Method according to~~The method of claim 1 ~~or 2~~, wherein the DNA sequence is adapted ~~regard being had to~~according to the natural frequency of individual codons.

6. (Currently Amended) ~~Method according to any of claims 1, 2 or 5~~The method of claim 1, wherein the DNA sequence corresponds to the DNA sequence given in SEQ ID No. 2, or to a sequence~~,~~ which is ~~identical to~~ at least 90% identical to~~of~~ the DNA sequence given in SEQ ID No. 2.

7. (Currently Amended) ~~Method according to any of the preceding claims~~The method of claim 1, wherein the RNase A is expressed in fusion with a signal peptide, which directs the transport into the periplasmic space.

8. (Currently Amended) ~~Method according to~~The method of claim 7, wherein the signal peptide is the signal peptide of ~~the~~ alkaline phosphatase (phoA).

9. (Currently Amended) ~~Method according to any of the preceding claims~~The method of claim 1, wherein the expression of the RNase A is under the control of an inducible promoter.

10. (Currently Amended) ~~Method according to~~The method of claim 9, wherein the promoter is a heat-inducible promoter.

11. (Currently Amended) ~~Method according to claim 9 or 10~~The method of claim 9, wherein ~~the~~ induction of the gene expression takes place at the end of the exponential growth phase.

12. (Currently Amended) ~~Method according to any of claims 9 to 11~~The method of claim 9, wherein ~~the~~ induction of the gene expression takes place within a period of 14 to 20 hours.

13. (Currently Amended) ~~Method according to any of the preceding claims~~The method of claim 1, wherein the RNase A forms inclusion bodies.

14. (Currently Amended) ~~Method according to any of the preceding claims~~The method of claim 1, ~~wherein the method~~ further ~~comprises~~ comprising ~~recovery of~~recovering the RNase A from *E. coli* cells or the culture medium~~, respectively~~, optionally by means of solubilisation and refolding of the RNase A.

15. (Currently Amended) ~~Method according to~~The method of claim 14, wherein the recovering step comprises solubilizing and refolding the RNase A, and guanidine HCl is used as a denaturing agent for solubilisation.

16. (Currently Amended) ~~Method according to~~ The method of claim 14 ~~of 15~~, wherein the recovering step comprises solubilizing and refolding the RNase A, and reduced and oxidised gluthatione is used for refolding.

17. (Currently Amended) ~~Method according to any of the preceding claims~~The method of claim 1, ~~wherein the method~~ further ~~comprises~~ comprising ~~chromatographic purification of~~purifying the RNase A chromatographically.

18. (Currently Amended) ~~Method according to~~The method of claim 17, wherein said chromatographic purifying step is performed by ~~a~~ cation exchange chromatography ~~is performed~~.

19. (Currently Amended) ~~Method according to any of the preceding claims~~The method of claim 1, wherein more than 100 mg RNase A per litre culture medium are yielded.

20. (Currently Amended) ~~Method according to any of the preceding claims~~The method of claim 1, wherein more than 3 mg RNase A per gram wet biomass are yielded.

21. (Currently Amended) An *E. coli* cell culture~~, which contains~~comprising at least ~~0,2~~0.2 g RNase A per litre of culture medium.

22. (Currently Amended) A ~~Nucleic~~ nucleic acid molecule~~, which~~ ~~contains~~comprising ~~a~~the nucleic acid sequence ~~according to~~of SEQ ID No. 1.

23. (Currently Amended) ~~Nucleic~~ A nucleic acid molecule~~, which contains~~ ~~a~~comprising the nucleic acid sequence of~~according to~~ SEQ ID No. 2.

24. (Currently Amended) ~~Nucleic~~ A nucleic acid molecule~~, which~~ ~~comprises~~comprising the following components in an order from 5' to 3':

- a promoter being active in *E. coli*~~;~~,
- optionally a sequence coding for the~~a~~ signal peptide of~~in terms of~~ claim 7~~ or 8~~; and~~,~~
- ~~a~~the nucleic acid sequence ~~according to~~of SEQ ID No. 1 or 2.

25. (Currently Amended) ~~Use of a nucleic acid sequence according to SEQ ID No. 1 or 2 for the production of~~A method of producing recombinant RNase A comrprising expressing the nucleic acid sequence of SEQ ID No:1 or 2.

26. (Canceled) ~~Use of the RNase A according to claim 21 in the purification of DNA and proteins.~~

27. (New) A method of purifying DNA or proteins comprising degrading RNA using the RNase A produced by the method of claim 1.